

acting the effects of the opium, of which so large a quantity had been taken into the system. But, at the same time, we found in electro-magnetism an invaluable resource; without it we could not have roused our patient to swallow anything.

"One of our highest authorities on the subject of poisons, to whom the particulars of this case have been communicated, considers the result to be owing to the vigorous measures we adopted, and believes that the belladonna had little or nothing to do with it; but as regards vigour of treatment, the usual methods of rousing the patient by physical efforts and stimulants completely failed. The narcotism became more and more profound, until at length the child could not be roused at all out of her unconsciousness. It was not until we had recourse to electro-magnetism and belladonna that any signs of improvement took place. If recovery was solely due to electro-magnetism, a very moderate application of it was sufficient in this case, and it would be well to remember this in the treatment of similar cases. But, it may be asked, how could a child of 11 years take sixteen grains of extract of belladonna in less than three hours, without experiencing any of its usual toxical effects, unless for the counteracting influence of the opium which had been previously taken? More importance might be attached to this argument had not Dr. Fuller shown, in a most interesting paper read by him to the Medico-Chirurgical Society, and published in the *Medical Times and Gazette* in July, 1859, the extraordinary tolerance of belladonna in young subjects. He described the tolerance of the drug as being so great that 'one child of 10 years took seventy grains of extract of belladonna daily, and a total amount of rather more than two ounces in twenty-six days. Another child of 14, to whom atropine was administered, took no less than thirty-seven grains in eighteen days! Whilst in adults two grains of the extract of belladonna daily would often induce vertigo and dizziness, and he found he could not establish a toleration of the larger doses, as in children.'

"This yet unexplained tolerance of belladonna in young subjects is, however, a question apart from that of its physiological relations to opium. The present case may not be considered as altogether fair evidence of the efficacy of belladonna, inasmuch as electro-magnetism was also employed in its treatment. But in Dr. Anderson's cases, in India, of opium poisoning, belladonna was the only remedy used. One of his patients in the course of thirty-six hours had swallowed two ounces of solution of hydrochlorate of morphia for delirium tremens. He was in a state of profoundest narcotism. He was made to swallow a drachm of tincture of belladonna in water every half hour. After the third dose the pupils began to dilate; in four hours and a half he was out of danger, having taken six drachms of the tincture. He also relates a similar case in which an ounce of the tincture in three ounces of water was given between 9 and 9.30 P. M., and in the course of the next half hour two drachms more were taken. At 2 A. M. all indications of opium poisoning had disappeared.

"On the other hand, as to belladonna poisoning, Mr. Bell's two cases are most striking. His patient had had a fourth of a grain of sulphate of atropine in solution injected over the sciatic nerve. Its toxical effects in due time declared themselves, and the patient's condition became 'altogether alarming,' and was without any indication of improvement. A strong solution of morphia was injected into the gluteal region of the opposite side, which happened to be next to the edge of the bed. Almost immediately an improvement was perceptible. In two hours and a half his worst symptoms had disappeared; the next morning he was, apparently, quite well. The other case was less alarming, but equally displayed the influence of opium as an antidote to belladonna. Nor should the cases recorded by Mr. Seaton, of Leeds, be forgotten, of the ten persons poisoned by eating the ripe berries of the *atropa belladonna*, in which opium was given with such signal benefit."

67. *Poisoning by the Endermic Use of Atropine*.—Dr. H. Ploss, of Leipsic, relates the following case. A man, aged 33, had an affection of the larynx, which Dr. Ploss regarded as being of a syphilitic nature. Another physician, however, being called in consultation, decided that the case was one of simple laryngitis, and ordered a blister to be applied round the neck, to be dressed on the following day with an ointment composed of 15 parts of sulphate of atro-

pine to 700 of lard. Dr. Ploss expressed his fears as to the effects of this; but his remonstrances were not attended to. Some minutes after the application of the ointment, the patient suddenly sprang from his seat, in a state of undescribable anguish; he ran about the room, crying out that he was suffocated, that everything appeared black before his eyes, and that he felt as if he were being strangled. He violently tore off the dressing; and threw himself on his couch, his eyes fixed and his face fiery red. Dysphagia and dyspnoea increased more and more; clonic convulsions of the limbs set in, resembling those of chorea; the breathing became very frequent; the pulse rose to 140 or 150; the patient could not utter a word. An attempt was made to bleed him; but this could not be done on account of the constant convulsive movements. It was equally impossible to introduce anything by the mouth or by the rectum. The breathing soon became interrupted, the pulse thready, and the patient died, scarcely two hours after the application of the ointment.—*Brit. Med. Journ.*; Jan. 21, 1865, from *Zeitschr. für Med. Chir. und Geburtsh.*

68. *Lead Poisoning*.—Dr. ALEXANDER FLEMING, in a Clinical Lecture on Lead Poisoning and its Treatment (*British Med. Journ.*, Jan. 1865), relates the following case:—

“A very interesting example of unsuspected lead poisoning in a child six months old has been lately mentioned to me by my friend Dr. Jordan, of this place. This infant (T. O.), which was being brought up by hand, without any extensible cause began to decline, and to present unequivocal symptoms of lead-poisoning; viz., severe colicky pains, constipation, gradually increasing emaciation, and unusual pallor; sickness, dilated pupil; finally, extreme drowsiness, and almost complete paralysis of the upper extremities. The lower limbs were also enfeebled, but in a less degree. There was no convulsion. After two months' suffering, and of mystery as to the origin of the evil, the feeding-bottle was accidentally examined, when the ball-valve and its case were found to be undergoing corrosion; and, as these were made of an alloy containing lead, the cause of the illness was at once apparent. This was removed, and the child made a rapid recovery. It is interesting to note, that in this infant, *which had no teeth*, there was no blue line on the gum.”